

IN THE CLAIMS:

Claim 1 (currently amended): Reactive polymers and copolymers based on N- (2-hydroxypropyl) methacrylamide for preparation of polymeric drugs, modification of biologically active proteins and preparation of gene delivery systems characterized in that they contain minimally 60 % of monomer units N-(2-hydroxypropyl)methacrylamid and reactive thiazolidine-2-thione groups that are either component of the reactive monomer units or are bound through nitrogen of the reactive thiazolidine-2-thione groups to the carbonyl group that is a component of a linker at the end of the polymer chain.

Claim 2 (original): Reactive polymers and copolymers according to Claim 1 characterized in that they contain reactive thiazolidine-2-thione groups in side chains of the polymers or copolymers.

Claim 3 (original): Reactive polymers and copolymers according to Claim 1 characterized in that they contain reactive thiazolidine-2-thione groups at the ends of polymer chains.

Claim 4 (currently amended): Reactive copolymers according to Claim 2, characterized in that they consist of 30 - 3000 monomer units linked in a polymer chain, out of which 60-99.8 % are N-(2- hydroxypropyl) methacrylamide units and 0.2 - 40% are reactive monomer units consist of N-methacryloylated(Ma) amino acids or oligopeptides containing reactive thiazolidine-2-thione groups of the general formula Ma-X-TT, where

X is 6-aminohexanoic acid or 4-aminobenzoic acid or β -alanine or GlyGly or GlyPhe or GlyPheGly or GlyLeuGly or GlyPheLeuGly or Gly-DL-PheLeuGly or GlyLeuPheGly and TT is a reactive thiazolidine-2-thione group based on N-methacryloylated amino acids or oligopeptides containing reactive thiazolidine-2-thione groups of the general formula Ma-X-~~TT~~, where X is an amino acid or oligopeptide and the amino acid is selected from a group including 6-aminohexanoic acid, 4-aminobenzoic acid and β -alanine and the oligopeptide is selected from a group including GlyGly, GlyPhe, GlyPheGly, GlyLeuGly, GlyPheLeuGly, Gly-DL-PheLeuGly, GlyLeuPheGly.

Claim 5 (currently amended): Reactive polymers according to Claim 3, characterized in that they consist of 20 - 150 monomer units linked in a polymer chain composed of ~~[[100%]]~~ N-(2- hydroxypropyl) methacrylamide units and bearing (3-sulfanylpropanoyl)-thiazolidine-2- thione grouping at the chain end.

Claim 6 (currently amended): Reactive polymers according to Claim 5, characterized in that they contain 0.1 – 5 % monomer units of N-methacryloylated oligopeptides of doxorubicin, where oligopeptides are selected from a group including GlyPheGly, GlyLeuGly, Gly-DL-PheLeuGly, GlyPheLeuGly, GlyLeuPheGly and GlyLeuLeuGly consist of 20-150 monomer units linked in a polymer chain composed of 95-99.9 %N-(2- hydroxypropyl) methacrylamide units and 0.1-5 % N-methacryloylated oligopeptides of doxorubicinu, where oligopeptides are selected from a group including GlyPheGly, GlyLeuGly, Gly-DL-PheLeuGly, GlyPheLeuGly, GlyLeuPheGly and GlyLeuLeuGly, and bearing (3-sulfanylpropanoyl)-thiazolidine-2-thione grouping at the chain end.

Claim 7 (currently amended): Reactive polymers according to Claim 3, characterized in that they consist of 20 - 2000 monomer units linked in a polymer chain composed of [[100 %]] N-(2- hydroxypropyl) methacrylamide units and bearing (4-cyanopentanoyl)-thiazolidine-2- thione group at the chain end.

Claim 8 (currently amended): Reactive polymers according to Claim 7, characterized in that they contain 0.1 – 5 % monomer units of N-methacryloylated oligopeptides of doxorubicin, where oligopeptides are selected from a group including GlyPheGly, GlyLeuGly, Gly-DL-PheLeuGly, GlyPheLeuGly, GlyLeuPheGly and GlyLeuLeuGly consist of 20-2000 monomer units linked in a polymer chain composed of 95-99.9 % N-(2- hydroxypropyl) methacrylamide units and 0.1-5 % N-methacryloylated oligopeptides of doxorubicin, where oligopeptides are selected from a group including GlyPheGly, GlyLeuGly, Gly-DL-PheLeuGly, GlyPheLeuGly, GlyLeuPheGly and GlyLeuLeuGly, and bearing (4-cyanopentanoyl) thiazolidine-2-thione group at the chain end.

Claim 9 (canceled).

Claim 10 (withdrawn): Method of preparation of reactive polymers and copolymers according to Claim 1 characterized in that the monomers selected from the group consisting of N-(2- hydroxypropyl) methacrylamide and N-methacryloylated amino acid or oligopeptide containing reactive thiazolidine-2-thione groups are subjected to radical copolymerization in solution.

Claim 11 (withdrawn - currently amended): Method of preparation of reactive polymers and copolymers according to Claim 1 characterized in that the monomer N (2-hydroxypropyl) methacrylamide is subjected to precipitation radical polymerization in the presence of 3-sulfanylpropanoic acid as chain ~~carrier~~ transfer agent or 2,2'-azobis (4-cyanopentanoic acid) as initiator and the obtained polymer is reacted with 4,5-dihydrothiazole-2-thiol.

Claim 12 (withdrawn - currently amended): Method of preparation of reactive polymers and copolymers according to Claim ~~[[6]]~~ 1 characterized in that the monomer N (2-hydroxypropyl) methacrylamide is subjected to solution radical copolymerization with a N-methacryloylated oligopeptide of doxorubicine in the presence of 3-sulfanylpropanoic acid as chain ~~carrier~~ transfer agent or 2,2'-azobis (4-cyanopentanoic acid) as initiator and the obtained polymer is reacted with 4,5-dihydrothiazole-2-thiol.

Claims 13-16 (canceled).